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Lee Mann Smith McWilliams
Sweeney & Ohlson
P O Box 2786
Chicago, IL 60690-2786

EXAMINER

MEHRA, INDER P

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/470,629

Applicant(s)

TOMLINS ET AL.

Examiner

Inder P Mehra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/27/03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6 and 9-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6 and 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Response to Amendment

1. This is in response to an amendment A dated 6/27/03, which has been fully considered and made of record. Based on this amendment, claims 1, 7 and 8 have been cancelled, claims 2, 4-6, and 9-12 have been amended, and claim 13-15 have been added. Claims 2-6, and 9-15 are now pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 14-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 14 and 15 recite limitations, "the frames each comprises a plurality of time slots, the interface comprises a timing reference and wherein pointers identify the number of the first time slots in the frames relative to the timing reference". This limitation is not supported by specifications.

Appropriate correction or clarification is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 2-6, 9-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recite the limitations, "the traffic" in line 2 and "**said synchronous frame**" in line 5. The traffic is preceded by "TDM traffic". There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recite the limitation "**the start of an ATM cell**" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recite the limitations "**the traffic**" in line 2, and "the adapted traffic" in line 4, and "said synchronous frames" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recite the limitations "**the first time slots**" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recite the limitations "**the first time slots**" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Objections

6. Claim 14 is objected to because of the following informalities:

Claim 11 recites limitation, "the frames each comprises a plurality of time slots", in line 1

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, is grammatically incorrect and therefore leads to vague interpretation. It should have been, if agreed, mentioned as “each of the frames comprises a plurality of time slots”.

Appropriate correction or clarification is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-3, 6, 9 –11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Won (US Patent No. 6,510,163)**, in view of **Irvin (US Patent No. 5,862,136)**, and further in view of **Caves (US Patent No. 6,266,343)**.

For claims 2, 9, and 13, Won discloses a method of adapting synchronous time division multiplexed (TDM) traffic at an interface between a synchronous network-----and an asynchronous network—transported in cells (time slotted T1 signal, refer to abstract and col. 6 lines 25-28), refer to col. fig. 1 and col. 3 lines 49-65, the method comprising:

- generating pointers (unipolar signal or tag) identifying phase of the TDM traffic (routing tag and VPI /VCI, refer to col. 3 lines 31-35 and 6 lines 34-36), refer to unipolar signal to a framer 1021 in fig. 2a;
- mapping the synchronous frames into primary multipled groups, refer to col. 6 lines 5-24;

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- mapping each said primary multiplexed group into traffic cells in a respective asynchronous virtual circuit, refer to col. 6 lines 5-24, lines 34-36 ; and
- wherein the pointers (routing tag, col. 6 lines 33-39) are mapped into one or more asynchronous cells (ATM cells, as taught by claim 13) for transport ahead of the traffic cells (header data stream);

Won does not disclose expressly the following limitations:

- **generating pointers (unipolar signal or tag) identifying phase of the TDM traffic;**
- **mapping the synchronous frames into primary multiplexed groups, mapping each said primary multiplexed group into traffic cells in a respective asynchronous virtual circuit;**
- **pointers are mapped into one or more separate asynchronous cells for transport ahead of said traffic cells;**

Irvin discloses explicitly traffic transferred in frames *identified by corresponding pointers and labels* (distinct identifier, col. 13 line 16) *and* asynchronous network in which the adapted traffic is transported in cells, refer to col. 14 lines 30-35; comprising *mapping the synchronous frames into primary multiplexed groups (two data streams at output of the multiplexer 411, col. 12 lines 64-67* , mapping each said primary multiplexed group into traffic cells in a respective asynchronous virtual channel (maps the information received into cells, refer to col. 12 lines 62-67); and *pointers and labels are mapped into one or more separate asynchronous cells for transport ahead of said traffic cell(header data stream, refer to col. 12 line 67, (an adaptation process by which user generated information is written into and read*

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from the fixed cell format. This is often referred to as being mapped to and from the fixed cell format, refer to col.3 lines 31-34, col. 16 lines 23-57, col. 18 lines 37-43) ;

Further, Caves discloses expressly, “**pointers identifying phase of the TDM traffic**”, refer to “**a first pointer indicative of the start of a frame or block of the structured data----**---**identifying the position of the first pointer, refer to col. 5 lines 5 – col. 6 lines12.**

Thus, it would have been obvious a person of ordinary skill in the art at the time of the invention to use distinct identifier, and the adaptation process of mapping pointers and labels into cells for onward transmission across ATM network as taught by Irvin and Caves. The suggestion/motivation to do so would have been to reconstruct or restore the frames in TDM format at the end of ATM network, refer to Irvin’s col. 13 lines 11-19, and Caves’s col. 5 lines 40-55.

For claims 3 and 10, Won discloses all the subject matter of claimed invention with the exception of the following limitations:

- *primary multiplexed groups are multiplexed groups are multiplexed by byte interleaving into a secondary multiplexed signal;*

Irvin discloses *primary multiplexed groups are multiplexed groups are multiplexed by byte interleaving into a secondary multiplexed signal*, refer to col. 1 line 35 and col. 10, lines 35-37;

Thus, it would have been obvious a person of ordinary skill in the art at the time of the invention to use multiplexing and interleaving, and the adaptation process of mapping for

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onward transmission across ATM network. The suggestion/motivation to do so would have been to interleave in transmit and receive frames in TDM format, refer to col. 1 lines 35-36.

For claims 6 and 11, Won discloses ATM cells containing time slots from a synchronous frame which is given its own VCI and VPI, refer to col. 2 line 67 through col. 3 line 3 and col. 4 lines 33-34.

9. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Won** (US Patent No. 6,510,163), in view of **Irvin** (US Patent No. 5,862,136), and further in view of **Caves** (US Patent No. 6,266,343) and **Mauger** (US Patent No. 6,222,843).

For claims 4, Won discloses AAL-1 (not AAL-0), abstract and col. 4 line 13-15. Further, Won, Irvin, and Caves disclose all the limitations of the subject matter of claim 4, with the exception of, “said adaptation is performed using ATM adaptation layer zero (AAL0)”;

Mauger discloses, “said adaptation is performed using ATM adaptation layer zero (AAL0)”, refer to col. 5 lines 20-25, and lines 45-52, and figs. 8 and 10.

Thus, it would have been obvious a person of ordinary skill in the art at the time of the invention to use the adaptation process of mapping for onward transmission across ATM network –AAL0. The suggestion/motivation to do so would have been to use ATM adaptation layer zero (AAL0).

For claim 5, Won discloses, “time slot group frame boundary coincides with the ATM cell boundary (sub frame synchronization signal and frame alignment, refer to col. 6 lines 18-24.

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10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Won**, and further in view of **Irvin and Caves**, as applied to claims 2 and 9 above, and **Eames** (US Patent No. 6,282,189).

For claim 12, Won, Irvin, and Caves disclose all the subject matter of claimed invention with the exception of the following limitations:

- **provided in the form of an integrated circuit;**

Eames discloses **provided in the form of an integrated circuit** (the mapping of TDM information into ATM cells---is performed in one or more ASIC integrated circuits), refer to col. 15 lines 23-25;

Thus, it would have been obvious a person of ordinary skill in the art at the time of the invention to use multiplexing and interleaving, and the adaptation process of mapping for onward transmission across ATM network in integrated circuits. The suggestion/motivation to do so would have been to facilitate interfacing with other modules in mapping functions.

Response to Arguments

11. Applicant's arguments filed 6/27/03 regarding claims 2-6, and 9-15 have been fully considered but they are not persuasive.

Applicant argues that Won does not disclose the features, inter alia, of generating pointers identifying phase of the TDM traffic and mapping pointers into asynchronous cells for transport a head of cells.

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Caves discloses expressly, “**pointers identifying phase of the TDM traffic**”, refer to “**a first pointer indicative of the start of a frame or block of the structured data-----**
identifying the position of the first pointer, refer to col. 5 lines 5 – col. 6 lines 12.”

Applicant argues that Irwin does not disclose, “*pointers and labels are mapped into one or more separate asynchronous cells for transport ahead of said traffic cell*”.

Irwin discloses, “*pointers and labels are mapped into one or more separate asynchronous cells for transport ahead of said traffic cell*” (*header data stream, refer to col. 12 line 67, (an adaptation process by which user generated information is written into and read from the fixed cell format. This is often referred to as being mapped to and from the fixed cell format, refer to col. 3 lines 31-34, col. 16 lines 23-57, col. 18 lines 37-43.*

Conclusion

12. Any enquiry concerning this communication should be directed to Inder Mehra whose telephone number is (703) 305-1985. The examiner can be normally reached on Monday through Friday from 8:30AM to 5:00 PM.

If attempt to reach the examiner by telephone is unsuccessful, the examiner’s supervisor, Seema Rao, can be reached on (703) 308-5463. Any enquiry of a general nature of relating to the status of this application or processing should be directed to the group receptionist whose telephone number is (703) 305-4700.

13. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, DC. 20231

Or faxed to (703) 872-9314.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive,

Arlington, VA, sixth floor (Receptionist).

Inder Mehra
Inder Mehra 10/3/03

October 3, 2003



DANG TON
PRIMARY EXAMINER